

**POSITION DUTY STATEMENT**

PM-0924 (REV 11/2017)

CLASSIFICATION TITLE Mat & Rsch Eng Associate (Spec)	OFFICE/BRANCH/SECTION DES/METS/OSM	
WORKING TITLE Materials & Research Engineer Associate	POSITION NUMBER 559-318-3381-xxx	EFFECTIVE DATE 08/01/2018

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

**GENERAL STATEMENT:**

Under the direction of the Senior Bridge Engineer, the M&R Engineering Associate will perform the typical duties within the Office of Structural Materials (OSM). The primary function of the Office of Structural Materials (OSM) is to ensure the materials and products used in California Department of Transportation (Caltrans) construction projects comply with contract requirements. The M&R Engineering Associate performs mechanical testing in the Structural Materials Testing Lab (SMTL) on a variety of materials associated with the construction of roadways and structures as part of the quality program for the overall Caltrans transportation system. The M&R Engineering Associate works closely with the SMTL Chief, Structural Materials Testing Branch to provide clear, effective and timely technical information to OSM stakeholders based on mechanical testing results. The M&R Engineering Associate will prepare daily reports on quality assurance testing results for various source materials and will be responsible for reporting these results to OSM stakeholders. The M&R Engineering Associate will coordinate lab personnel and their work to obtain test results on sampled materials in a timely fashion. The M&R Engineering Associate will be instrumental in maintaining the American Association for Lab Accreditation (A2LA) and ensure compliance within the required Quality Management System.

**CORE COMPETENCIES:**

As a Mat & Rsch Eng Associate (Spec), the incumbent is expected to develop the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, and Goals.

- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Stewardship and Efficiency/Organizational Excellence - Integrity)
- **Commitment/Results Oriented:** Dedicated to public service and strives for excellence and customer satisfaction. Ensures results in their organization. (System Performance - Teamwork)
- **Computer literacy and application:** Appropriate knowledge of computer applications and other tools necessary to successfully perform tasks. (Safety and Health, Organizational Excellence - Teamwork, Innovation)
- **Conflict Management:** Recognizes differences in opinions and encourages open discussion. Uses appropriate interpersonal styles. Finds agreement on issues as appropriate. Deals effectively with others in conflict situation. (Sustainability, Livability and Economy/Organizational Excellence - Commitment, Teamwork)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Organizational Excellence - Integrity, Teamwork)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Safety and Health, Organizational Excellence - Teamwork, Innovation)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (System Performance - Innovation)

**TYPICAL DUTIES:**

Percentage	Job Description
Essential (E)/Marginal (M) <sup>1</sup>	
30% E	Lead on quality assurance testing on various structural materials to be delivered to construction projects. Schedule workload and coordinate the labs work to ensure timely testing of structural materials. Assist in the performance of testing to ensure conformance with the contract plans and relevant specifications. Work includes data collection, mathematical calculations, record keeping, test preparation, set up and operation of test equipment, and performing the test.
25% E	Generate various paper and digital OSM reports, including test reports, for OSM stakeholders such as OSM source inspectors, engineers and vendors. Assist in making special studies and preparing technical reports; assemble data and prepare tabulations on inspection and testing. Ability to interpret specifications and test data to consult with the engineer, review or recommend changes to specifications and test methods as assigned by the Branch Senior

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15%	E	Assist in maintaining SMTL ISO 17025 scope of accreditation, assist in technical competence of staff, validity and appropriateness of test methods, calibration and maintenance of test equipment and environment, proficiency sample program, sampling and transportation of test items, quality assurance of test and calibration data, overall support of the Quality System Manual.
15%	E	Use Cal-Card to purchase and maintain test equipment, supplies, and services needed for repairs, calibrations and operation of the lab.
5%	M	Provide technical support to OSM stakeholders for committee work, Authorized Material Lists (AML), New Products, ongoing contracts and specialty testing. Participate on OSM Mechanical Testing Committee.
5%	M	Acts as the designated Lab Safety Officer and handles Safety Officer responsibilities. Drive and be certified on lab owned equipment (overhead crane, forklift, motor vehicles, etc.). Lead planned lab tours.
5%	M	Miscellaneous duties appropriate for the classification as assigned by Branch Chief related to SMTL.

<sup>1</sup>ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

**SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS**

None. May act as the lead person of the lab as and when required by the Branch Chief. This responsibility is job-oriented and does not include complete personnel supervision such as discipline and attendance.

**KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS**

Employee must have knowledge of Caltrans Construction projects including applicable standards and plans, codes, national associations, etc. Employee must have knowledge of the materials used in these projects, testing procedures, inspection procedures, sampling and reporting activities and knowledge of labor and safety practices in the Caltrans projects. Employee must have the ability to interpret plans and specifications, analyze and check all necessary test reports on materials incorporated in the work for conformity to applicable specifications.

Employee must pass and be certified on lab owned equipment (overhead crane, forklift, motor vehicles, etc.)

Employee must have the ability to communicate clearly and efficiently with supervisor, other members of the Division of Engineering Services, and the public. Employee must also have command of basic computer applications from the, Microsoft® Suite such as Outlook, Excel, Word, Caltrans custom-made applications and the ability to learn the Universal Testing Machines current testing software.

Employee must have the ability to establish and maintain good and professional working relationships with other Department units, the fabricating industry and the contractor on Department projects. Employee must be familiar and able to follow the Department policies and procedures.

**RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR**

The MREA is directly responsible for the acceptance or rejection of the materials tested, the results of the tests performed, the calculations and reports prepared. Wrong decisions have the potential of jeopardizing the integrity of structures, which in turn could affect the public and personnel safety, contract claims and delays to contracts.

In addition, release of confidential material could result in legal actions and loss of integrity of the office and the Department

**PUBLIC AND INTERNAL CONTACTS**

Maintain close communication with supervisor, and other OSM offices. Has daily and frequent contact with fellow staff, other branch, office, headquarters and lab personnel regarding test results and inspection reports. Maintains fair, impartial, effective, and professional relationship with suppliers, fabricators, and manufacturing plants.

**PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS**

Employees may be required to sit for long periods of time using a keyboard and video display terminal and reviewing and auditing data. Employee may be required to sustain the mental activity needed for writing, auditing, problem solving, analysis and reasoning; may be required to develop and maintain cooperative working relationship and respond appropriately to difficult situations. Employee may be required to stand for long periods of time; pull, push and squat to examine materials and products; climb uneven terrain; maintain mental awareness and physical agility when working in the proximity of the motoring public. Employee will be required to drive a motor vehicle. Employee may occasionally be required to move equipment and test materials that require lifting up to 60 lbs.

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**WORK ENVIRONMENT**

While at their base of operation, employee will work in a climate-controlled office under artificial lighting. When in the office will be exposed to hazards associated with standard office equipment. When performing inspection duties, employee may work around bulk quantities of building materials, heavy equipment, and machinery. Employee will work outdoors and around testing equipment and may be exposed to dirt, noise, uneven surfaces, and/or extreme heat or cold. Hardhat and safety vest or approved safety shirt, and eye protection must be worn at all times in the field, no exceptions. Incumbent must work with a variety of materials including testing equipment. May also be exposed to the motoring public. DES employees may be given temporary assignments on DES projects throughout the State as workload demands.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE